

ABSTRACT OF THE DISCLOSURE

A distributed and disjoint forwarding and routing system and method operable with a routing element having a scalable cluster-based architecture, wherein the control plane and data plane are loosely-coupled for effectuating non-disruptive switchover in the event of a failure. The routing element includes a partitionable data plane having one or more forwarding tables and a partitionable control plane having one or more routing tables operating under control of at least one routing protocol process. One or more update buffers are provided with respect to the forwarding and routing tables. A partitionable update agent module is disposed between the data and control planes for mediating the updating and coordination of the forward tables based on the routing tables.